



iPF6100

COMPETITIVE BRIEF

imagePROGRAF® iPF6100 Printer Competitive Brief

As a world leader in imaging technology, Canon takes a remarkably comprehensive approach to print quality, an approach that considers both how an image will appear at the moment it's printed as well as how it will look over time and on display. With the introduction of the imagePROGRAF iPF6100 printer, Canon brings advanced technologies together into a fully integrated solution that orchestrates the essential elements of ultra-high-quality large-format printing.



This 12-color, 24"-wide printing system has a broad color gamut and high-resolution output of up to 2400 x 1200 dpi, delivered through two one-inch print-heads with a total of 30,720 nozzles. With more nozzles than its competitors and Canon's advanced high-speed L-COA processor, the iPF6100 printer is fast and reliable in every print mode.



Canon's LUCIA™ ink is chemically engineered to actually improve print quality. This unique ink reduces graininess, even in typical problem areas such as skin tones, gradations of blue, and the dark areas of gray lines. Images printed with LUCIA ink will, therefore, have a smoother, more continuous tone for a more "photographic" effect.

Each pigment particle of LUCIA ink is encapsulated in a special polymer coating that improves how the ink adheres to media. This coating helps the ink to lay down smoother on the surface of the media so light reflects off the printed image more evenly. This reduces the unwanted metallic sheen or "bronzing" effect that can occur with other ink-jet printing systems. LUCIA ink also resists scratching and peeling. This is especially important when producing monochrome photographs because, against a black-and-white image, scratches can be much more noticeable.

For professionals, the effects of humidity and environmental conditions can make maintaining high-quality print results difficult, especially in production environments where multiple printers must be balanced to the same color levels. The built-in calibration functions of the iPF6100 printer resolves this problem by enabling operators to easily maintain the printer's high level of performance day after day and print after print.

What makes the iPF6100 printer unlike other 24" large-format printers?

With the introduction of the imagePROGRAF iPF6100 printer, Canon has leaped ahead of the competition. Among its many strengths, the iPF6100 printer is clearly distinguished from its competitors by the following attributes:

- Canon's unique LUCIA pigment inks are specially formulated to reduce graininess, increase scratch resistance, and minimize unwanted bronzing.
- The built-in calibration function resets the iPF6100 printer to the original, optimal factory settings and applies any necessary adjustments across the printer's media types in just minutes!
- The 12-color ink set has a large color space that enables a greater range of tone and depth.
- Red, green, and blue inks expand the color gamut to optimize color reproduction accuracy.
- Total ink consumption is minimized because colors in the red, green, blue, and gray tones can be generated from these source colors rather than blending higher volumes of multiple inks to simulate the same color effect.
- Photo cyan and magenta help smooth transitions and further reduces graininess.
- Photo black, matte black, gray, and photo gray optimize black density, regardless of media type, and reproduce any tone of gray for smooth transitions from white to black for exceptional monochrome photo-quality output.
- Switching between black inks is fully automated based on the type of media being used; no manual intervention is required and no ink is wasted.
- Canon's latest generation two one-inch iPF Series print-heads have a true 1200-dpi pitch and are capable of a resolution of 2400 x 1200 dpi.
- With a total of 30,720 nozzles, the iPF6100 printer has more nozzles than its competitors. More nozzles means fast and reliable error-free printing.
- Superfine 4pl ink droplets ensure accurate imaging with better detail and clarity.
- The high-speed L-COA processor drives output speed and maintains productivity.

An array of workflow solutions are available with the iPF6100 printer to expand the printer's capabilities and simplify its use. These software packages provide the additional tools needed to address the unique requirements of large-format printing applications.

- **Print Plug-in for Adobe® Photoshop®** for enhanced image processing
- **Print Plug-in for Digital Photo Professional** for advanced functionality for large-format printing from digital cameras
- **Canon Printer Driver 2007** to optimize workflow productivity
- **Digital Photo Front-Access** – displays digital files with application linkage
- **PosterArtist** – an optional template-based poster design software package

Refer to the above list of unique selling propositions when positioning the iPF6100 printer in a sale. No other large-format printer on the market today offers this combination of features expertly integrated into a single high-performance printing system. The extraordinary print quality and color range of the iPF6100 printer make this the premier solution for customers who require unparalleled print quality, reliability, and productivity.

Competitive Alternatives

Let's now take a look at the key competitors in the 24"-wide large-format printing marketplace.

HP DESIGNJET Z2100 24" PHOTOPRINTER

Pros: The new eight-color Z2100 is positioned by HP as a high-quality printer for all types of large-format applications with a particular focus on photography. Customers interested in archival printing may be attracted by HP's claims that prints will last up to 200 years without fading and are water-resistant on certain types of media. The color set includes standard CMYK with Light Cyan, Light Magenta, a Photo Black, and a Light Gray. This color set broadens the printer's color gamut while helping to improve the black and gray tones of a printed image. Like the imagePROGRAF printers, the Z2100 auto-switches between the standard black and photo black, depending on the media being used. A built-in spectrophotometer can be used by operators to calibrate the printer and create their own ICC profiles. Along with the printer, the \$3,395 price includes an HP ProPrint Plug-in for Photoshop, the Printer Driver, and HP Color Center software for color management functions.

Cons: While some attractive features are included with the Z2100, HP has left several important customer requirements unaddressed. The ability to produce high-resolution output is extremely important to many customers, especially in photography, fine art, and those who produce proofs. While the Z2100 can achieve an optimized resolution of 2400 x 1200 dpi, the normal mode for this printer is just 600 x 600 dpi. Another important factor that affects the printer's performance is the number of nozzles available to eject ink onto the media. With only 8,443 nozzles spread across all eight ink colors, the Z2100 has far fewer nozzles than the Canon iPF6100 printer, which has 30,720. More nozzles makes the Canon printer more reliable and enables the iPF6100 printer to produce high-quality output, even in high-speed print modes.

An unusual feature of the print-head configuration in the Z2100 is that four of the eight print channels have nozzles with a 4pl droplet size, while the other four have nozzles with 6pl droplet. With this, HP has made certain assumptions regarding ink coverage by color channel. Given the infinite variety of possible images, it's hard to know if this configuration will be able to deliver consistently good color and ink coverage in all cases.

The Z2100 printer's built-in spectrophotometer provides advanced users with the ability to create their own profiles and calibrate the printer accordingly. However, for many customers, the process of creating profiles may prove to be very time-consuming and burdensome. To take full advantage of this feature, HP customers need to repeat the process for each and every media that they want to use. With the iPF6100 printer Canon has taken a different, more efficient approach. The built-in calibration function of the iPF6100 printer provides users with the ability to reset the printer back to the original factory settings and to do so across the printer's types of media in just a few minutes. Because Canon has already created and optimized profiles for a wide variety media types, this approach enables Canon customers to achieve excellent print quality in less time and with less effort.

While the HP's Viverna pigment inks are intended to address a customer's need for color stability without fading, they don't address other important aspects that can directly affect the quality and durability of a printed image. Canon's LUCIA inks, on the other hand, address a much broader range of needs. LUCIA inks have been specially formulated for fade-resistance, scratch resistance, minimal bronzing, and reduced graininess. This combination of features makes the LUCIA ink a better choice, especially for photography and fine art, where scratches, graininess, and bronzing can significantly devalue the quality of the finished print. When the eight-color HP Z2100 is compared to the 12-color Canon iPF6100 printer across all categories of performance—print quality, speed, color gamut, durability, scratch resistance, and calibration functions, the Canon printer is clearly a better choice.

HP DESIGNJET Z3100 24" PHOTOPRINTER

Pros: This 24"-wide printer from HP with 12 ink channels targets photography, fine art, and prepress proofing applications. Among the device's noteworthy features are an unusual color set, a built-in spectrophotometer, pigment inks, a gloss enhancer, a selection of RIPs, and productivity-oriented print utilities. Claims that prints will last up to 200 years without fading and are water-resistant on certain media will no doubt attract some customers. Prepress customers producing proofs may also be enticed by the built-in spectrophotometer, compliance with press emulation standards (such as SWOP®) and PANTONE® color matching. The \$4,095 price includes an HP ProPrint Plug-in for Adobe Photoshop, auto-swapping of black inks, and a print controller with built-in color management and layout tools.

Cons: Much of what makes this printer different may also make it too radical a design to enjoy broad customer acceptance in the marketplace.

To start with, HP has made the unusual decision not to include a standard cyan ink as part of the Z3100's color set. Rather, the Z3100 relies on a combination of HP's Blue and Light Cyan inks. This is a surprising departure from one of the best-known principles of color printing, which requires a full set of primary colors (CMYK) to create the majority of the color gamut. With virtually all graphic design applications and systems built on the assumption that a cyan ink channel is available for CMYK printing, many professionals may find it difficult to achieve their desired results with this odd configuration of colors. In addition to the 11 colors of ink, HP has used the twelfth ink channel for a "gloss enhancer." The benefits of the gloss enhancer remain unclear at this time.

With a native resolution of 600 x 600 dpi and only 12,672 nozzles (less than half that of the iPF6100 printer) the Z3100 printer performance and image quality will likely fall short when compared to the iPF6100 printer. And like the Z2100, this printer has an off-balance nozzle configuration with six color channels ejecting 4pl droplets and the other six ejecting 6pl droplets. This may make color management difficult in certain circumstances which might make customers uncomfortable with the predictability of the printer's performance.

EPSON STYLUS PRO 7800

Pros: Epson targets this 24"-wide printer for use by graphic designers, prepress professionals, and photographers. The piezoelectric print-heads are capable of producing three different sizes of ink droplets; a feature Epson calls Variable-Sized Droplet Technology. Each nozzle in the Epson 7800 is capable of producing all three sizes of ink droplets. Epson's design is, therefore, more adaptive to individual image requirements and may get better overall results than the HP. Normal print mode for the Epson 7800 is 1440 x 720 dpi and a maximum resolution of 2880 x1440 dpi make this a reasonably high-resolution printer. The eight-color ink set includes the expected CMYK combination as well as Light Cyan, Light Magenta, Light Black, and a choice of either Photo Black or Matte Black. Epson's pigment inks are fairly durable and color prints are estimated to last over 100 years without fading; black-and-white prints are claimed not to fade for up to 200 years. The base model 7800 has an MSRP of \$2,995 but doesn't include any value-added software other than the print driver. The 7800 Professional includes a ColorBurst RIP with PANTONE matching and SWOP certification for an extra \$1,000.

Cons: There was a time when the Epson 7800 might have been considered state-of-the-art in terms of print quality; however, when compared to the highly advanced features of the iPF6100 printer, the Epson printer may now seem somewhat out-of-date. With only 180 nozzles per color for a total of 1,440, the Epson will print much slower in all print modes than the Canon iPF6100 printer which has 30,720 nozzles. The relatively low number of nozzles also increases demand on each, thereby shortening print-head life and increasing the opportunities for misprints and errors. The eight-color ink set does not include Red, Green, or Blue and, therefore, offers a more limited and less versatile color gamut than the iPF6100 printer. And unlike the iPF6100 printer, the Epson 7800 also requires manual switching between Matte Black and Photo Black, which wastes both ink and operator time. By Epson's own estimates (www.epson.com Stylus Pro FAQs), the total ink wasted is about 88ml to 117ml per switch. Switching from one black mode to another therefore wastes a significant amount of ink, money, and time.

FEATURE COMPARISON CHART

Brand	Canon	HP	HP	Epson
Model	iPF6100	Z2100	Z3100	Stylus Pro 7800
Width	24"	24"	24"	24"
MSRP	\$3,495	\$3,395	\$4,095	\$2,995
Normal Mode Resolution	1200 x 1200 dpi	600 x 600 dpi	600 x 600 dpi	1440 x 720 dpi
Maximum Resolution	2400 x 1200 dpi	2400 x 1200 Optimized dpi	2400 x 1200 Optimized dpi	2880 x 1440 dpi
Size of Ink Droplet	Consistent 4pl	4 Colors with 4pl and 4 Colors with 6pl	6 Colors with 4pl and 6 Colors with 6pl	Variable: Smallest is 3.5pl
Nozzles Per Color Channel	2,560	1,056	1,056	180
Total Number of Nozzles	30,720	8,448	12,672	1,440
Ink Type	Pigment	Pigment	Pigment	Pigment
Number of Colors	12	8	11+ Gloss Enhancer	8
Color Set	C, M, Y, K, PC, PM, MBK, GY, PGY, R, G, B	C, M, Y, K, Lc, Lm, PK, LGY	Lc, M, Lm, Y, R, G, B, MK, PK, GY, LGY, + gloss	C, Lc, M, Lm, Y, Lk, LLk + PK or MK
Auto-Switching of Black Inks	Yes	Yes	Yes	No
Ink Supply	130ml	130ml	69ml or 130ml Cartridges	110ml or 220ml Cartridges
Available Software	Print Plug-in for Photoshop, Print Plug-in for DPP, Printer Driver, 2007 imagePROGRAF Viewer, Optional PosterArtist	HP ProPrint Plug-in for Photoshop, Driver and HP Color Center	HP ProPrint Plug-in for Photoshop, Printer Driver	Epson Printer Driver
Print Quality Control	Automated Adjustment Functions and Built-in Calibration	Built-in Spectrophotometer for Automated ICC Profiling	Built-in Spectrophotometer for Automated ICC Profiling	Built-in Sensors and Automated Alignment Functions

COLOR LEGEND

C = Cyan	PM = Photo Magenta	G = Green	Mc = Medium Cyan
M = Magenta	MBK = Matte Black	B = Blue	Mm = Medium Magenta
Y = Yellow	GY = Grey	O = Orange	Gloss = Gloss Enhancer
K = Black	PGY = Light Grey	Lc = Light Cyan	LGY = Light Grey
PC = Photo Cyan	R = Red	Lm = Light Magenta	



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